

Lesson F1

Red Zone Management

Commissioning and Final Acceptance

FE302 Advanced Facilities
Engineering
23Jun15

TLO/ELO

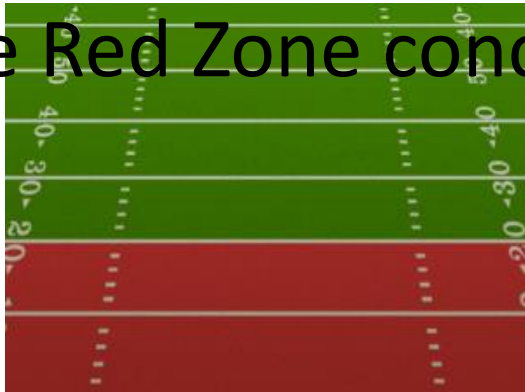
Given the requirement to complete and deliver projects on time, synthesize and assess the strategy, tools and processes that are essential to achieve successful project delivery

- Recognize Red Zone and activities required to successfully to accept a completed facility as evidenced
- Understand the requirements to plan and conduct commissioning for facilities
- Understand the requirement of final inspection and turnover of a government facility using the DD Form 1354

Background

- “Red Zone” refers to the area of a football field, the final 20 yards before the goal line
- It recognizes that the government can not wait until the end of a project to begin checking the requirements will be met
- It takes teamwork to develop and implement the Red Zone concept

This:



Not this:



Benefits of Red Zone Management

- Early focus on final actions required to deliver facilities
- Helps to administratively organize and complete final actions expeditiously, including closeout procedures
- Focuses team on aspects of building turnover not included in the construction contract

Red Zone Process

- RZ process is first discussed at the pre-construction meeting
- RZ process uses established tools: checklists, scheduling tools; resource monitoring and milestone tracking
- Government and contractor can view the project in “snapshots”
 - Identify actions to accomplish
 - Confirm required resources
 - Set milestones for successful completion and close out

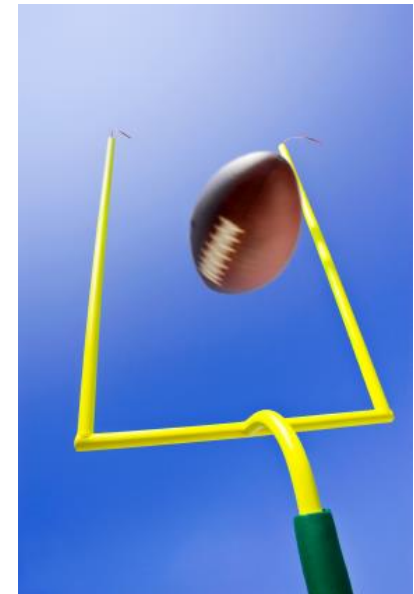
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Red Zone Meetings

Meetings before project turnover answer these issues:

- What construction remains to be done?
- Are resources available to perform work?
- What is the current impact on:
 - Pre and post BOD actions
 - Construction completion
 - Transfer of the facility
 - Closing the contract
- Does the schedule reflect reality?
- Do you need a recovery strategy?



Red Zone (RZ)

- When does the Red Zone process start?
- When do we execute the RZ process?
- What project use RZ?
- What is the RZ Focus?
- What are the elements of the RZ Process?
- Is the only completion tool DoD uses?

Red Zone (cont.)

- Is the only completion tool DoD uses?
- No, there is the **Yellow Zone** used by USACE
 - Involves meetings
 - Expedites work and financial close out
 - Conducted early (at 80% completion) or 60-90 days before BOD
 - Purpose – expedite completions.

SAMPLE
Red Zone Meeting Checklist
Date:_____

Action	Completion Milestone	√
Inspections		
Fire		
Safety		
Pre-final		
Mechanical Test & Balance		
Commissioning		
Landscaping Complete		
Beneficial Occupancy Date (BOD)		
Furniture Installation		
Comm Installation		
As-Built Contract Drawings		
Provide all O&M manuals, tools, shop drawings, spare parts, etc. provided to customer		
Provide Warranty documents to Customer		
Contract completion		
Final Inspection		
User move-in		
DD Form 1354, Transfer of Real Property completed & signed		
Ribbon cutting		
DD Form 2626 - Construction Contractor Performance Evaluation		
DD Form 2631 – A-E Performance Rated after Construction		
Final Payment Completed		
Release of Claims		
Return of Unobligated Funds		
Move Project from CIP to General Ledger		
Financial completion		

What is NAVFAC's Approach?

Section 1

Contractor Responsibility	Point of Contact	Sched. Comp. Date	Actual Comp. Date	Notes
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Section 2

Client Responsibility	Point of Contact	Sched. Comp. Date	Actual Comp. Date	Notes
A. Required for Facility Delivery:				
Keying Plan Meeting				
Telecommunication install				
Mod. service contracts for Phone/Utilities/Custodial/Grounds				
NMCI Installations or other networks				
GFE status/delivery schedule (GFCI, GFGI)				
Client provided equipment SELF installed				
Client provided equipment KTR installed				

Section 3

NAVFAC Responsibility	Point of Contact	Sched. Comp. Date	Actual Comp. Date	Notes
A. Required for Facility Delivery:				
Coordinate Final Utility Connections				
Generator Performance Verification				
Transformer Performance Verification				

Commissioning

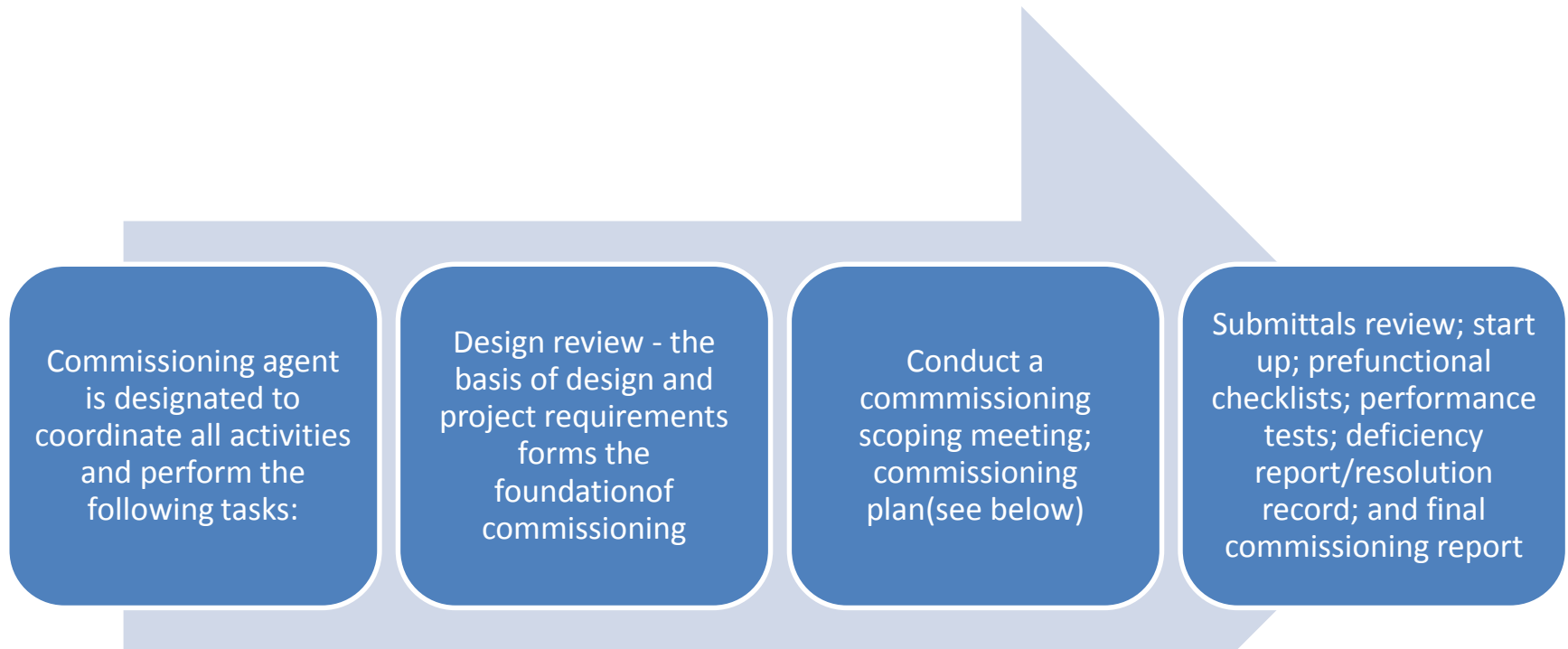
- Larger or more complex facilities include mechanical, plumbing, electrical, communications, and fire protection/life safety systems. Each may have critical, unique, operational characteristics and requirements, including integrated system dependency.
- Proper field (construction) commissioning of these systems is vital to demonstrate that the systems perform individually and interactively as required.
- For this reason the design shall develop commissioning requirements to thoroughly define testing procedures and expected results, tester qualifications, and testing instrumentation and hardware. Proper development of this documentation requires

Commissioning (Continued)

Commissioning Goals:

- Deliver the project to meet the project mission statement or needs
- Prevent or eliminate problems inexpensively thru proactive measures
- Verify systems operate “as advertised”
- Lower first costs and overall life cycle costs

Commissioning Process



Examples:

HVAC (cooling, air handlers, heat exchangers, fans, etc.)
Electronic safety and security systems
Site utility systems
Communications systems
Fire suppression systems
Renewable energy (solar, wind, etc.)

Commissioning Issues

Emerging issues:

- Emphasis on safety and security
 - Post 9/11 environment; IT systems integrated with safety, fire and HVAC
- Certifications and standards
 - LEED, Green Gloves, Energy star, ETC.

Commissioning Plans

A written commissioning plan is essential to all commissioned projects and allows all project participants to anticipate and plan for commissioning requirements and milestones.

Typical elements:

- General Project Information
- Overview and Scope of the Project Commissioning
- Listing of Equipment and Systems to be Commissioned
- Commissioning Protocols and Communications
- Commissioning Process, including Team Duties
- Commissioning Schedule
- Commissioning Documentation
- Appendices
- Testing and Inspection Plans
- Inspection, Functional and Performance Test Procedures
- Construction Checklists
- Performance Testing Procedures and forms
- Issues Logs

Requires QA oversight
by qualified people;
staff or A/E contract.
PDT determines best
means

FAR Requirements

- **FAR 52.246-12 Inspection of Construction**

This gives us the right to inspect at any time

- **FAR 52.236-11 Use and Possession Prior to Completion**

We have the right to early occupancy (BOD)

Do not change alter or repair – could alter rights

- **FAR 52.246-21 Warranty of Construction**

Contractor warrants all work including subs

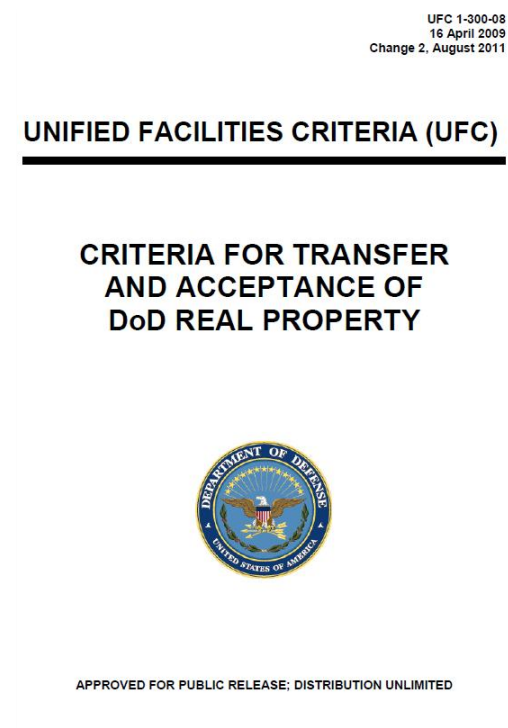
Lasts 1 year from acceptance or possession

Transfer and Acceptance

Methods of Acquisition:

- Construction
- Capital improvements
- Transfer from Services
- Inventory adjustments

“Applies to all military departments”



Change 1
25 March 2010
APPENDIX B DD FORM 1354

TRANSFER AND ACCEPTANCE OF DoD REAL PROPERTY														Form Approved OMB No. 0704-0188			
														PAGE	OF	PAGES	
<small>The public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Project Collection (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</small>																	
PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.																	
1. FROM (Organization Name)				2. DATE PREPARED (YYYYMMDD)		3. PROJECT/JOB NUMBER		4. SERIAL NUMBER		B. TRANSACTION DETAILS <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> a. METHOD (X all that apply) <input type="checkbox"/> ACQUISITION BY CONSTRUCTION <input type="checkbox"/> TRANSFER BETWEEN SERVICES <input type="checkbox"/> CAPITAL IMPROVEMENT <input type="checkbox"/> INVENTORY ADJUSTMENT </div> <div style="width: 35%;"> b. WHEN/EVENT (X one) <input type="checkbox"/> TOTAL ASSET PLACED-IN-SERVICE <input type="checkbox"/> PARTIAL ASSET PLACED-IN-SERVICE </div> </div>							
5. TO (Organization - Installation Code and Name)				6. RPSUID/SITENAME/INSTCODE/INSTNAME		7. CONTRACT NUMBER(S)		7a. PLACED-IN-SERVICE DATE (YYYYMMDD)		c. TYPE (X one) <input type="checkbox"/> DRAFT <input type="checkbox"/> FINAL <input type="checkbox"/> INTERIM							
9. ITEM NO.	10a. FACILITY NO.	10b. RPUID	11. CATEGORY CODE	12. CATCODE DESCRIPTION	13. TYPE CODE	14. AREA		17. OTHER		18. COST	19. FUND SOURCE	20. FUND ORG	21. INTEREST CODE	22. ITEM REMARKS			
						14. PRIMARY UM	15. PRIMARY UM QUANTITY	16. SECONDARY UM	17. SECONDARY UM QUANTITY								
23. STATEMENT OF COMPLETION. The facilities listed herein are in accordance with maps, drawings, and specifications and change orders approved by the authorized representative of the using agency except for the deficiencies listed on the reverse side.										24a. ACCEPTED BY (Typed Name and Signature)				b. DATE SIGNED (YYYYMMDD)			
a. TRANSFERRED BY (Typed Name and Signature)						b. DATE SIGNED (YYYYMMDD)				c. TITLE (DPW/RPAO)				25. PROPERTY VOUCHER NUMBER			
c. TITLE (Area Engr./Base Engr./DPW/Construction Agent)																	

DD Form 1354

- Draft DD 1354 – not required but –
 - Is initiated to capture information during design or RFP stage
- Interim DD 1345 – Allows transfer from construction agent to accountable service
 - Contains actual costs
- Final DD 1354
 - Construction or capital improvement – when final costs are known
 - Capital improvements: if new work extends useful life
 - Transfer – when all information is gathered
 - Inventory adjustment – when all information is gathered

Table 2-1 DD Form 1354 Completion Types

Acquisition Type	Draft	Interim	Final
New Construction	X	X	X
Capital Improvement	X	X	X
Transfer Between Services			X
Inventory Adjustment			X

Summary

What is the common theme of these activities?

- Requires accurate and detailed involvement of FE
- Starts early in the acquisition process
- Tools are available for FE use
- Many specialties become engaged

DD Form 1354 Roles

- **Construction agent** – primary responsibility to prepare the form and submit it
- **Sponsoring entity** – the military department (DoD agencies and Combatant command do not hold real property assets)
- **Real property accountable agent** – Ensures accuracy is provided in the inventory
- **Others** – DPW/FMO/BCE – provide information and confirmation